

Project Overview & Typing References

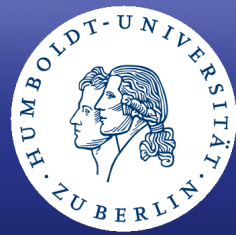
for presentation at the Fourth International Conference
on Webometrics, Informetrics and Scientometrics

Prof. Dr. Stefan Gradmann
Humboldt-Universität zu Berlin / School of Library and Information Science
stefan.gradmann@ibi.hu-berlin.de

The Menu

- Hors d'Oeuvre:
 - Aims & Strategy
 - Precursor: PERINE
- Pièce de résistance
 - EERQI: Consortium & Goals
 - EERQI: Problem Analysis
 - Consortium Composition
 - Schedule: Three Phases
 - EERQI Deliverables
- Dessert: Some words on semantic analysis

Aims & Strategy



- EERQI-Project was initiated by the **European Educational Research Association**
- EERA-aims
 - **improving communication** amongst educational researchers, associations and institutes in Europe
 - disseminating the findings of educational research and highlighting their contribution to policy and practice/
strengthening the European educational research space
- EERA strategy
 - developing common European educational **research projects**
 - developing adequate **research infrastructure**



Precursor: PERINE



- Preceding EU-funded network: **P**edagogical and **E**ducational **R**esearch **I**nformation **N**etwork **E**urope
- The PERINE **internet resource catalogue** is created by the PERINE project partners in Austria, Denmark, Germany, Hungary, Italy, Lithuania, Switzerland and the United Kingdom.
- Partners **use their national languages** to describe and index internet resources created in their own countries.
- Partners use the **European Education Thesaurus** to index resources.
- The following languages appear in the catalogue: Dutch, English, Finnish, French, German, Greek, Portuguese, Spanish, Swedish.
- More information: <http://www.dipf.de/perine>

EERQI: Consortium & Goals



- A European consortium of **19 participants** (EERA, BERA, EARLI, HU-IBI, XEROX Research Labs France, Computing Centers, 5 Commercial Publishers, Educational Researchers, Librarians & Information Specialists)
- Working for 3 years (04/2008 – 03/2011) with 1,5 M€ funding from EC as part of FP7 / DG Research (SSH)
- Goals:
 - Develop a set of viable **„European‘ indicators and methodologies for determination of quality** in educational research
 - Create a **Prototype Framework** for educational research that could serve as a paradigm for other hermeneutically based disciplines ('Social Sciences and Humanities')

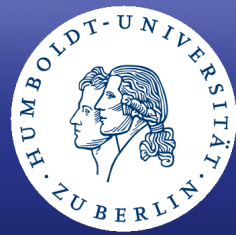


EERQI: Problem Analysis



- Traditional methods for relevance detection exclusively depend on **arithmetically based quantitative ranking procedures and impact factors** => No qualitative criteria are considered
- Very few **languages other than English** are taken into account
- Focussed on **articles**: no books or other media are taken into account
- Traditional ranking indicators such as SCI, SSCI or A&HCI are **controlled and delivered** by commercial enterprises
- All this results in **weak representation of European and of SSH research.**

Anglosaxon dominance ...



Country	Number of journals
USA	101
England	37
Netherlands	6
Germany	4
Australia	1
China	1
New Zealand	1
Portugal	1
South Africa	1
Total	153

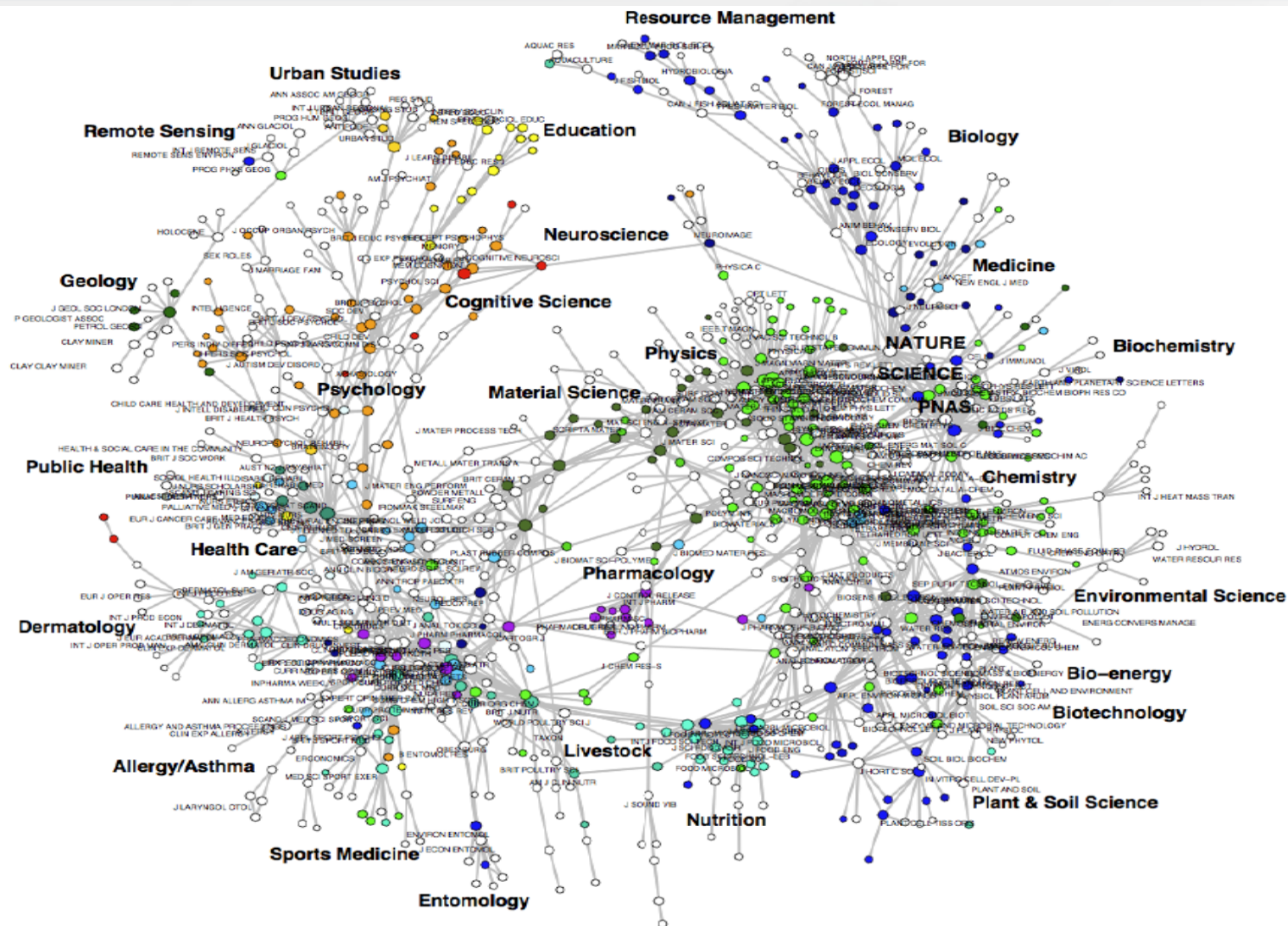
Number of European educational research journals currently included in the Social Sciences Citation Index (SSCI) and Journal Citation Report (JCR)

MESUR

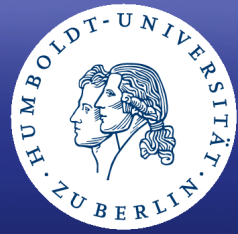
Metrics: MESUR

- 1 billion usage events
- From 14 parties: publishers, aggregators, institutions
- Also:
 - . Over 50 million hi-Q bibliographic references
 - . COUNTER journal usage reports for about 2000 institutions
- All joined in a massive reference data set that combines publication, citation, and usage data in a semantic network.
- Tries to demonstrate the feasibility of usage-based metrics of scholarly impact.
- The standards and policies to actually make them happen still need to be developed.

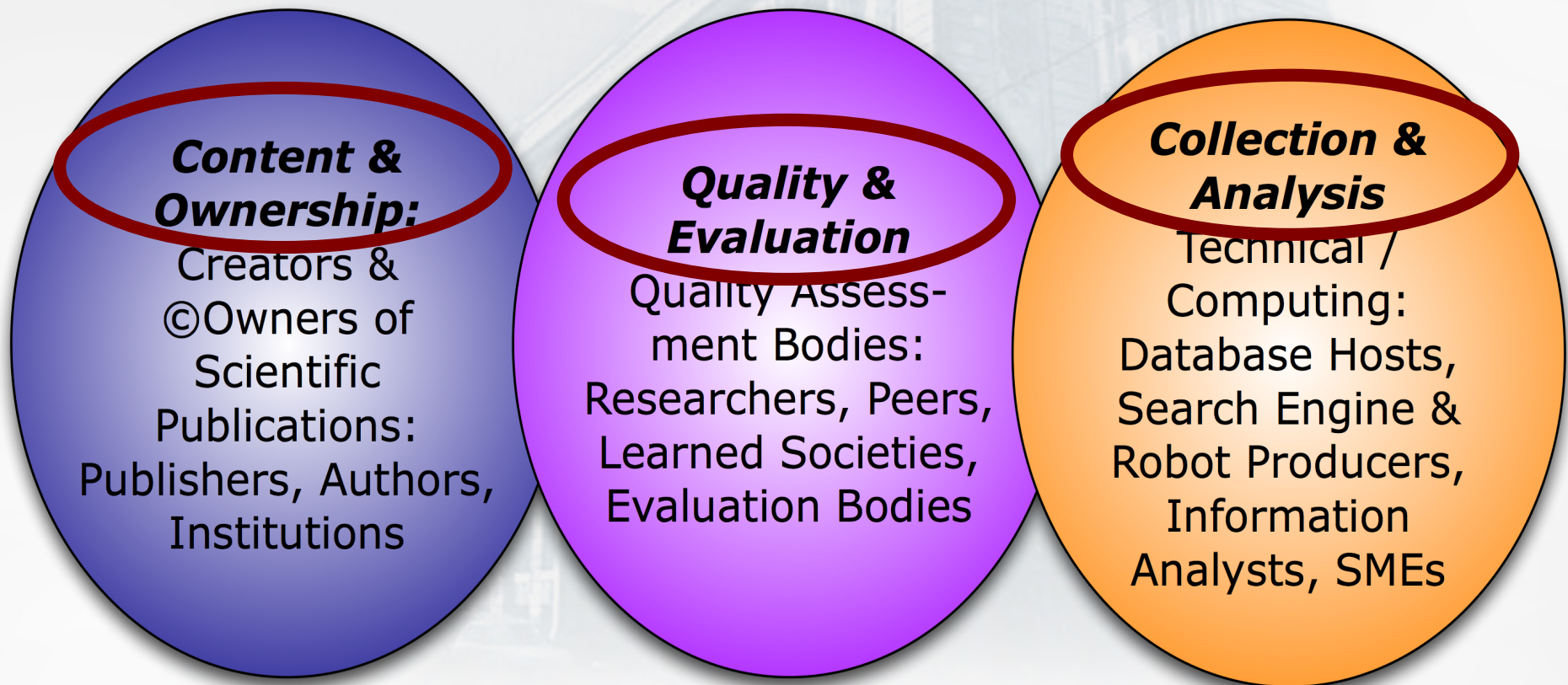
The first ever Map of Science created on the basis of a substantial usage data set



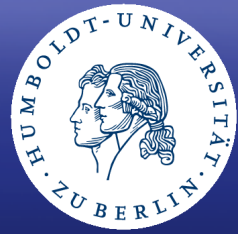
Consortium Composition



Division of labor and unique combination of players within EERQI:



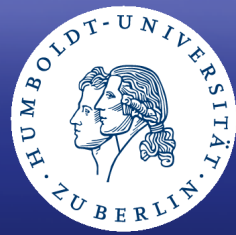
Schedule: Three Phases



1. **Content Base Development & First Prototype Search Engine** after first Meeting of Educational Researchers for New Indicators in June 2008
1. Search Engine Prototype 2 with Analysis Criteria – **Testing Phase of New Indicators** for their Validity
1. **Verification of Results** by educational research field, evaluation bodies and experts – **Test transferability** of methodology and Prototype Framework to another social science field – **Sustainability Plan**

= Total 3 Years

EERQI Deliverables

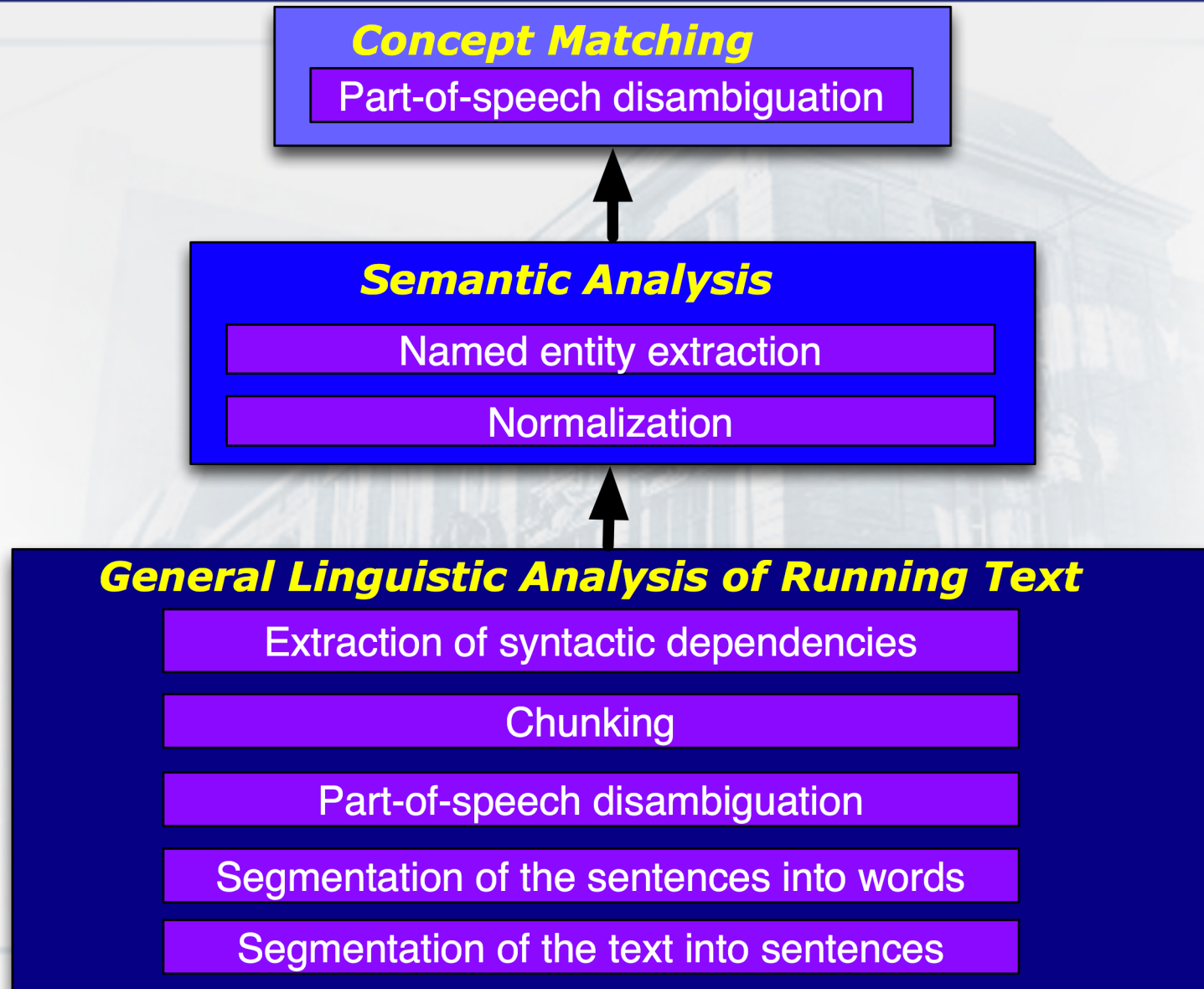


- A **set of quality indicators** including
 - qualitative criteria
 - journal articles, books, book chapters, web publications & more
 - and accounting for European multilingualism (inclusion of English, French, German, Swedish, for a start...)
- A specially developed **search and query engine**
 - Aggregated content base of research publications
 - Automated evaluation procedures, multilingual semantic analysis
- **Guidelines for transfer** to other social science fields & a sustainability plan
- **Final Conference** to demonstrate project results

... an extra on semantics

Typing Citations

(based on work by Ágnes Sándor/XRCE)



Concept Matching Method

Based on = We base our work on other work

A key aspect of the approach we take is to apply the principle of data independence [13] by separating a logical from a physical layer.

Although Protege also has some support for the Abstract Syntax, we chose to develop an expression syntax based on standard DL symbols [1].

A previous paper on modeling messages in RDF [3] proposed an ontology for messaging, and we have reused the portions of this ontology that are applicable to blogging.

Reference types (1)



◀ Background knowledge:

Consequently the necessity of a visual syntax for knowledge representation (KR) languages **has been argued frequently in the past [7, 14].**

Semantic Gossiping [3, 4] **is a** semantic reconciliation **method** that can be applied to foster semantic interoperability in decentralized settings.

It is unclear whether it is either possible or desirable, for all services, in this domain, and **is an area of research [22].**

Reference types (2)



◀ Based on:

A key aspect of the **approach we** take is **to apply** the **principle** of data independence [13] by separating a logical from a physical layer.

Although Protege also has some support for the Abstract Syntax , **we** chose to **develop** an expression **syntax based on** standard DL **symbols** [1].

A previous paper on modeling messages in RDF [3] proposed an ontology for messaging, and **we** have **reused** the portions of this **ontology** that are applicable to blogging.

Reference types (3)



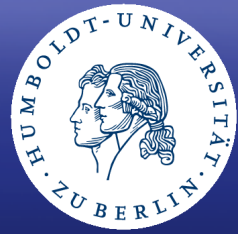
◀ Comparison:

Lemma 3.2 below shows that exactly the **same class** of rdfs-interpretations is defined **as in [2]**.

We had **also considered** TRIPLE **[24]** and Racer.

Indeed, some of the constructs presented there, drawn from earlier work by Guha **[10]** and McCarthy **[15]**, **are** very **similar** in spirit to those **presented here**.

Reference types (4)



◀ Positive assessment and ▶ criticism:

Aberer and Wu provide a good theoretical background in [24] where they present a ranking algebra as a formal framework for ranking computation.

A peer-to-peer architecture implementing this distributed query rewriting algorithm has been developed and the first experimental **results** of its scalability **are promising** [6].

◀ But **both of them have their limitations and are not suitable** for doing search in a decentralized environment. [3]

[Progressive Distributed Top-k Retrieval in Peer-to-Peer Networks - group of 13 »](#)

WT Balke, W Nejdl, W Siberski, U Thaden - Proceedings of the 21st International Conference on Data ..., 2005 - doi.ieeecomputersociety.org

Page 1. Progressive Distributed Top-k Retrieval in Peer-to-Peer Networks

Wolf-Tilo Balke 1 Wolfgang Nejdl 2 Wolf Siberski 2 Uwe Thaden 2 ...

[Cited by 35](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Top-k query evaluation for schema-based peer-to-peer networks - group of 12 »](#)

W Nejdl, W Siberski, U Thaden, WT Balke - Proceedings of the 3rd International Semantic Web Conference ... - Springer

Page 1. Top-k Query Evaluation for Schema-Based Peer-to-Peer Networks Wolfgang

Nejdl 1, Wolf Siberski 1, Uwe Thaden 1, and Wolf-Tilo Balke 2 ...

[Cited by 13](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Swarm Intelligent Surfing in the Web - group of 7 »](#)

J Wu, K Aberer - Proceedings of the Third International Conference on Web ... - Springer

Page 1. Swarm Intelligent Surfing in the Web Jie Wu and Karl Aberer School of

Computer and Communication Sciences Swiss Federal Institute ...

[Cited by 6](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Towards a decentralized search architecture for the web and p2p systems](#)

J Wu - Proceedings of the Adaptive Hypermedia and Adaptive Web- ..., 2003 - wwwis.win.tue.nl

Page 1. Towards a Decentralized Search Architecture for the Web and P2P Systems

Jie Wu Swiss Federal Institute of Technology, Lausanne ...

[Cited by 4](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)

[Web searching and information retrieval - group of 4 »](#)

J Pokorny - Computing in Science & Engineering [see also IEEE ..., 2004 - ieeexplore.ieee.org

Page 1. J JULY /AUGUST 2004 43 Although we can think of the Web as a huge

semistructured database that provides us with a vast amount ...

[Cited by 4](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Web Searching and Information Retrieval](#)

P IMPORTANCE - doi.ieeecomputersociety.org

name="robots">. name="DC.Publisher">. name="DC.Language">. ...

[Related Articles](#) - [Web Search](#)

[Semantic link based top-K join queries in P2P networks](#)

J Liu, L Feng, C He - Proceedings of the 15th international conference on World ..., 2006 - portal.acm.org

Page 1. Semantic Link Based Top-K Join Queries in P2P Networks Jie Liu,

Liang Feng, and Chao He China Knowledge Grid Research Group ...

[Related Articles](#) - [Web Search](#)

[Progressive Distributed Top-k Retrieval in Peer-to-Peer Networks](#) - group of 13 » ◀ ◀

WT Balke, W Nejdl, W Siberski, U Thaden - Proceedings of the 21st International Conference on Data ..., 2005 - doi.ieeecomputersociety.org

Page 1. Progressive Distributed Top-k Retrieval in Peer-to-Peer Networks

Wolf-Tilo Balke 1 Wolfgang Nejdl 2 Wolf Siberski 2 Uwe Thaden 2 ...

[Cited by 35](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Top-k query evaluation for schema-based peer-to-peer networks](#) - group of 12 » ◀ ◀

W Nejdl, W Siberski, U Thaden, WT Balke - Proceedings of the 3rd International Semantic Web Conference ... - Springer

Page 1. Top-k Query Evaluation for Schema-Based Peer-to-Peer Networks Wolfgang

Nejdl 1 , Wolf Siberski 1 , Uwe Thaden 1 , and Wolf-Tilo Balke 2 ...

[Cited by 13](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Swarm Intelligent Surfing in the Web](#) - group of 7 » ◀ ◀

J Wu, K Aberer - Proceedings of the Third International Conference on Web ... - Springer

Page 1. Swarm Intelligent Surfing in the Web Jie Wu and Karl Aberer School of

Computer and Communication Sciences Swiss Federal Institute ...

[Cited by 6](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Towards a decentralized search architecture for the web and p2p systems](#) ◀ ◀

J Wu - Proceedings of the Adaptive Hypermedia and Adaptive Web- ..., 2003 - wwwis.win.tue.nl

Page 1. Towards a Decentralized Search Architecture for the Web and P2P Systems

Jie Wu Swiss Federal Institute of Technology, Lausanne ...

[Cited by 4](#) - [Related Articles](#) - [View as HTML](#) - [Web Search](#)

[Web searching and information retrieval](#) - group of 4 » ◀

J Pokorny - Computing in Science & Engineering [see also IEEE ..., 2004 - ieeexplore.ieee.org

Page 1. J ULY /A UGUST 2004 43 A lthough we can think of the Web as a huge

semistructured database that provides us with a vast amount ...

[Cited by 4](#) - [Related Articles](#) - [Web Search](#) - [BL Direct](#)

[Web Searching and Information Retrieval](#) ◀

P IMPORTANCE - doi.ieeecomputersociety.org

name="robots">. name="DC.Publisher">. name="DC.Language">. ...

[Related Articles](#) - [Web Search](#)

[Semantic link based top-K join queries in P2P networks](#) ◀ ! ◀

J Liu, L Feng, C He - Proceedings of the 15th international conference on World ..., 2006 - portal.acm.org

Page 1. Semantic Link Based Top-K Join Queries in P2P Networks Jie Liu,

Liang Feng, and Chao He China Knowledge Grid Research Group ...

[Related Articles](#) - [Web Search](#)

- ◀ - background knowledge
- ◀ - appreciation
- ◀ - criticism
- ! - first time
- ◀ - comparison
- ◀ - based on

Conclusions

- Using reference typing methodology in EERQI will contribute to XEROX' research agenda in two respects:
 - **extending the entity knowledge base related to known and extended types** within a large scale test bed of SSH scholarly discourse (which may differ significantly from STM discourse!)
 - providing substantial elements for conclusive **evaluation of precision and recall** obtained in using this methodology
- Within EERQI, reference typing will enable us
 - to generate **qualified scholarly social networks** at a level of significance and granularity which has been hitherto impossible to achieve.
- For the rest, watch <http://www.eerqui.eu>!